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CHRISTMAS MAGIC

by D. B. Steinman

The star-shaped snowflakes softly fall
To deck each bough with sparkling white.
With magic wand the stars are hung
Like jewels of celestial light.
The treetop holds, as crowning gem,
The glowing Star of Bethlehem!

Once shepherds saw the wondrous Light;
Beside a crib they knelt in prayer.
The humblest hearth now glows with Love
Because His gift — a child — is there!
The angel voices sing again:
Peace on Earth, Good Will to Men!

Conservation of Our Engineering and Scientific Talent Is Imperative

EVERAL centuries ago a caustic philosopher characterized the Bourbons as rulers who "never forgot anything and never learned anything." netimes the United States seems to be contesting with the Bourbons than dubious distinction. Two world wars and a mammoth "police on" have not served to convince our policy makers that trained engineers an asset not to be squandered in non-strategic phases of national defense.

During and after World War I there was widespread acclaim for the ineers and their skill and resourcefulness—a decisive factor in winning war. During the thirties, while Germany was "mobilizing" her engineers scientists and using them effectively but ruthlessly to advance the devel- nent of weapons and techniques, our young men were busy with make- k projects in the Civilian Conservation Corps or Works Progress Ad- istration. Thousands of young men who had the aptitude for scientific arch and development, unable to finance an education, never had the ortunity to use their talents and skill in either civilian or military ects.

When we became involved in the "shooting war" only ineffectual ef- s were made to cut engineers and scientists out of the herd of draftees place them where they were needed either with the armed forces or esearch agencies. Many of them engaged in essential defense industries e snatched from their jobs while men with scant technological training l superior political influence) were put in their places.

World War II and Korea made us superconscious of the need of nologists, both in the armed forces and in industry. The ratio of neers to skilled workers increased phenomenally. This with the threat ar created an almost panicky market for engineering services and gave to frantic systems of recruiting and holding employees with technolog- raining. Educators were loudly criticized for underemphasis on mathe- cs and science in secondary schools—for the liberality of "elective" or t" courses in the high schools. Columnists, radio commentators, and esentatives of industry beat the tomtoms to induce more young people alify for careers in science and engineering. The response was strong. llments in technical schools increased at a phenomenal rate.

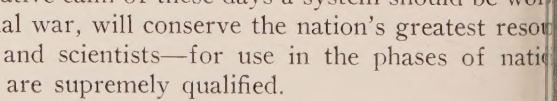
It would seem that once these talented young people were corralled hools, the government would fully exploit the resources represented in ically trained student bodies. Instead, driving these people into the l through wide open front gates, the government has rushed them hrough the back gate of compulsory military training, indiscriminately,

without regard to the need of both industry and the armed forces
trainees capable of being developed into leaders of important research a
production projects.

In the early stages of World War II, while it was drafting qualif
engineers into non-technical divisions of the armed forces, as privates,
government was crying aloud its need of trained engineers. At the sa
time it was taking over trade and correspondence schools with hast
assembled instructors to which were sent for brief technological train
masses of students, chosen somewhat opportunistically, not for prov
aptitude in mathematics and science and certainly not because of th
background of training or experience. So far, no provision has been ma
for preventing a recurrence of the mistakes that hampered national defe
in the 40's—no provision for deferring the draft of graduate engineers
for channeling them into agencies where their knowledge and experie
should be most useful.

The public, confused by contradictory statements, continues to be
different, absorbed in its own problems—disturbed by international cri
angered by claims that Russia is running far ahead of us in scientific ed
tion of its youth and in scientific achievements, but incredulous concer
both claims. On one point people are clear—and indignant—the appa
cost of the contest with Russia in the development and construction
weapons. They do not know whether to believe those who say loudly
the shortage of engineers is "artificial" or those who cite figures to s
the superiority of numbers of trained technologists enjoyed by Ru
They cannot check the claims of those who say that the schools are "he
ing" students into engineering schools, and those who insist that last y
there was less than a 1% increase in the enrollment of engineering stude

Meanwhile, only the shrewdest critics of the defense program re
nize the most apparent weakness—the failure of the government to cons
for technological pursuits its thoroughly qualified men, by planning
to prevent the waste of graduate engineers in any future "selective serv
system such as the one in effect in World War II, which failed lamenta
in this respect. In the relative calm of these days a system should be wor
out that, in time of actual war, will conserve the nation's greatest reso
—its trained engineers and scientists—for use in the phases of nati
defense for which they are supremely qualified.



Editor

*From Vision to Achievement**

By D. B. Steinman, LL. D., L.H.D., Litt D., Eng. D., Sc. D.
Consulting Engineer

We are glad to publish this excellent and most inspiring article by . Steinman, Past President and Life Member of A.A.E., because of the reme interest in science and engineering at this time. We especially sug- t that student engineers read it.

VERY man's philosophy of life is the product of his experiences. This is especially true of the professional . His faith, his dedication, and his otion to his profession are the products he experiences that have shaped his

o me, engineering has been a succes- of inspiring influences, of impelling itions, of obstacles overcome, and of ms come true. The realization—one another—of dreams that seemed less leaves me reverent and humble.

* * *

am proud to belong to a truly great ession—the profession of planners builders.

he engineer is a builder. He builds reams and the dreams of his fellow- into enduring realities. He harnesses s magic for building man's dreams. overcomes obstacles, breaks down ers, and builds the bridge for the rd march of Civilization.

* * *

r one lesson from past experience is to underestimate the future of engi- ng progress. Each new discovery s tremendous vistas of further inven- and application. The quickening o is logarithmic. Each new genera- building on the past, sees more ess in science and engineering than recorded in all the preceding cen- .

ore the dawn of history, the great- ngineering achievement was the in- on and application of the wheel. was man's first great improvement upon nature. The prehistoric genius who hit upon this apparently simple invention could not have visualized the vast future significance, the amazing vistas of mechanical progress thereby made possible. Hardly any subsequent engineering advance would have been possible without the wheel in its manifold developments, symbolized by all the indispensable wheels of industry, transportation, and power. One invention led to millions of others. If all the wheels used, consciously or unconsciously, in our daily lives where suddenly annihilated, our civilization would collapse.

* * *

Despite occasional myopic prophets who discounted further progress, engineering achievement has advanced at an ever accelerating tempo.

In 1837, a distinguished British scientist, with the odd name of Dionysius Lardner, published a scientific paper in which he proved, with irrefutable mathematical equations nobody could question, that it was impossible to build a steamship capable of a non-stop voyage from England to America. A few months later, on April 24, 1838, the steamer *Sirius* arrived in New York, the first to cross the Atlantic entirely under steam. The ship brought to America copies of Lardner's paper "proving" that such voyage was impossible!

In 1843, Henry L. Ellsworth, U. S. Commissioner of Patents, wrote in his Annual Report to Congress:

"The advancement of the arts, from year to year, taxes our credulity and seems to presage the arrival of that period when human improvement must end."

ess at the National Convention of Triangle nity of Engineers and Architects, at the rsity of Illinois, August 31, 1957.)

If the Commissioner had been a mathematician, he would have known the elementary fact that an expanding series can never be convergent; it can never approach a limit, but must continue to expand to infinity.

* * *

In 1902, Simon Newcomb, the distinguished American mathematician, published a paper in which he proved mathematically that mechanical flight, of a machine heavier than air and capable of carrying a man, was physically impossible. The following year, on December 17, 1903, two bicycle mechanics, the Wright brothers, made their epoch-making flight at Kitty Hawk in North Carolina—the first flight by man in a machine heavier than air. That is the way progress is made—by defying the impossible.

With their crude box-kite, made of wire, wood and fabric, and propeller-driven by a small motorcycle engine, Orville and Wilbur Wright ushered in the age of flight, leading to the present gigantic and powerful multi-engined planes and ultrasonic jet planes, and an unlimited future of rockets, artificial satellites, and space-travel.

* * *

This picture of human progress is sketched in some lines I have written, under the caption *"Ad Astra."*

When man first flung a log astride a stream,
He leapt millenniums beyond his birth;
Now strands of steel translate his lofty dream
To link the farthest corners of the earth;
He tames the sea, and ventures forth to sail
The very skies in globe-encircling flight;
His jets and rockets blaze a fiery trail
And ring the universe with lanes of light.
Unsated still, though master now of space,
Man strives (as strive he must) to conquer time;
Some inner force impels him on, to trace
Beyond the stars a destiny sublime
With light of faith to set his spirit free
Man builds a bridge to span eternity.

In 1912, when I was a young Profes of Civil Engineering at the University Idaho and had just published a book *"Suspension Bridges and Cantilevers,"* was in correspondence with Gustav L denthal, who was then the dean of Am ican bridge engineers. I confided to l my ambition to specialize in long-s bridges; he replied in a discourag vein, declaring that no more long-s bridges would be built; the high price steel, he said, had made them prohibit (The price of steel, erected, had gone from 2½ cents to 3 cents a pound!) T years later, in 1914, Lindenthal called to New York to be his Special Assis on the design and construction of new record-breaking bridges, the Gate Bridge at New York (the wor largest and heaviest arch span) and Sciotoville Bridge over the Ohio R (the world's greatest and longest co ous truss bridge). Never underest the future of engineering!

It took forty years (from 1889 to 1 to increase the world's record span le by only 150 feet, from the Forth B in Scotland with 1700-foot span to Detroit-Ambassador Bridge of 1850 span. In the next *eight* years, in two jumps, the world's record span-le was *more than doubled,* with the Ge Washington Bridge (1931) of 3500 span and the Golden Gate Bridge (1 of 4200-foot span.

In the ten years from 1930 to 1940 t was more progress in bridge enginee than in all the centuries preceding. included new bridge types, new rec breaking span-lengths, new mate improved methods of analysis, and erection methods. We are now wor on bridge projects with unprecede span-lengths of 5000 to 6300 feet, bridge engineers now agree that s lengths of 10,000 feet are well within range of practical feasibility.

* * *

On November 7, 1940, the world shocked and the engineering profe was startled by the aerodynamic des tion of the Tacoma Narrows Bridg

On March 11th, 1957, the University of Florida, Gainesville, Fla., dedicated the Steinman Lounge located in the Engineering Industries Building of the School of Engineering. Covering the walls on the lounge are murals of bridges that this internationally eminent bridge engineer has built. One of the murals is shown above.

-foot span, in a mild gale. But this only a temporary setback. I had dis-red the phenomenon two years earl- and I devoted seventeen years to the tery of the problem, by intensive re-ch, invention, and mathematical an-is. By combining three engineering nces, suspension bridge analysis, math-tical theory of vibrations, and aero-mics, a new science has been created *pension Bridge Aerodynamics.* Now -span bridges can be designed with plete assurance of perfect aerodynamic lity, and without sacrificing beauty economy.

* * *

e are living in a wonderful age of very, invention, and engineering ress. In my lifetime I have seen the tion and development of the X-Ray, phonograph, motion pictures, wire-dirigibles, airplanes, radio, color graphy, television, and thousands of inventions scarcely conceivable by er generations. From the horse and y and the horseless carriage we have advanced to the automotive age with 65,000,000 motor vehicles on the highways of America. The new luxuries and conveniences, unknown to the millionaires of yesterday, have been made available to the millions today. New triumphs of engineering have made this possible—mass production, the assembly line, automatic machines, and interchangeable parts.

We now have automation, electronic computers, guided missiles, jet planes, and rockets, and we are going on to satellites, flying saucers, platforms in space, space ships, interstellar communication, and interstellar travel. From mastery of our planet, man goes on to the conquest of the universe.

* * *

Electronics has almost overnight become one of the ten largest industries in America, with a total volume of $6 billion a year.

Data processing machines have been built that can perform mathematical computations in one two-thousandth of a second; that can memorize and store

on magnetic tape more than four million instructions and numerical data. To meet the demands of industry, electronic computers are now being turned out in numbers vastly beyond the availability of professionally trained men to operate them. It has been estimated that, within ten years, a new group of professional people numbering 170,000 will be working full time on the care and feeding of some 10,000 stored-program computers.

The machines we use are far more complex than they were even five years ago. Machine tools are now in routine daily use that can follow a long series of instructions written out in advance; that can automatically change the depth of cut as the edge of the tool grows duller, and then change the tool itself; that can correct their own errors or shut themselves off when they can't.

* * *

In 1917-20, when I was Professor in charge of Civil and Mechanical Engineering at the City College of New York, I established courses in Aeronautics, including Aerodynamics, Airplane Design, Airplane Engines, etc., with laboratories completely equipped with airplanes and airplane engines contributed by governments and private agencies. These were the first courses in Aeronautics in any college in America. In 1920 the absentee president of the college returned from the Peace Conference at Versailles. He ordered the Aeronautics courses discontinued and the aeronautic laboratories dismantled because, he said, the war was over and there was no longer any future for Aeronautics! He lacked the vision to see beyond the horizon.

* * *

Around the turn of the century, two American physicists, Michelson and Morley made precision measurements on the velocity of light and discovered a startling paradox—the measured velocity (c) was invariant, whether measured with or against the direction of the earth's motion. This contradicted prior theories of relative velocities based on Newtonian Mechanics. Intrigued by this problem, a young Swiss watchmaker, Albert Einstein, set out to resolve or harmonize the new paradox. In 1905 he published h revolutionary Special Theory of Relati ity, with new equations of space, tim and mass. One of these new equations derived, the simple formula $E\text{-}Mc^2$, w to make history and change the wor For the first time, the inter-convertibili of mass and energy was indicated a mathematically predicted.

Outside the innermost scientific ci cles, the world paid little heed to t startling mathematical conclusions Einstein. He worked eleven years mo on his analysis, to include curvature, a celeration, and gravity, and in 1916 published his Generalized Theory Relativity. More startling conclusions, i cluding the prediction of the curvatu of light rays by gravity! In 1919, British eclipse-expedition, in Afri found that light-rays passing near the s were actually curved as predicted Einstein. His theory ceased to be mathematical speculation; his equati became accepted working tools of scie Newtonian theories were superseded.

On August 6, 1945, the report of atomic blast over Hiroshima was flas around the globe. When Eintsein forth his famous conversion formula, dared to turn his back on three centur of scientific thinking. Because a sm group of men accepted Einstein's co clusions and were willing to proceed the assumption that $E\text{-}Mc^2$, a city w destroyed, and the history of the wo has been changed. Now we know th matter and energy are convertible, a we have entered into a new era of scien and invention—and constructive progr —the Atomic Age!

* * *

History has repeatedly witnessed t conversion of military devices to vast greater and more lasting peace-time a plications for the benefit of mankin Bridges were originally built for mi tary use; now such application has b come relatively insignificant. Even e plosives have found preponderant peac time application. Airplanes, first d veloped for war, have become an ever day peace-time necessity. And no

omic power is speedily becoming a ace-time reality of inestimable sig- icance. Already a valuable tool in re- rch and medicine, the atom is going provide all of our heat, light and power our new dawning age of engineering gress.

The threat of war may be a stimulus the development of new discoveries and entions, but the needs of peace rapidly propriate the same inventions to greater more enduring applications.

Men may kill and destroy for a time, they can build forever.

* * *

Atomic energy (for peace-time use) employs the services of 15,000 engi- s and scientists, and in the coming s it will need many times that num- —far more than any foreseeable pros- s of the supply of trained men that be available.

Leading utility companies, in coopera- with the Atomic Energy Commis- , are now building large atomic power ts on a commercial scale. The design installation of these atomic power ts involve the solution of new engi- ing problems of unprecedented diffi- y and magnitude. Such developments hese are typical of a whole new in- rial technology that is being de- ped in this country. They have ght us to a new high plateau in engi- ing, design, materials, inspection, cation. On this plateau, standards far more exacting than anything we known in the past. Educational aration and specialized training have to be raised to higher levels. Qualifi- n requirements of the individual neers and scientists are more de- ling. A new order of creative in- on and adaptive resourcefulness is demanded.

short, the industrial machine has ne more massive and infinitely more lex. The requirements for running ve grown formidable, and the stakes ved are correspondingly high.

* * *

does not require too much imagina- tion to visualize the future application of guided rockets for transcontinental or intercontinental delivery of mail and parcels; and when engineers and scientists solve the human problems involved, guided rockets will ultimately be transporting passengers in intercontinental, and even in interplanetary, travel.

Complete operation of large factories by automation is in the foreseeable future. All of this will never in itself be a cause of unemployment, for our progress will always be providing more and interesting things to challenge the ingenuity, capability and interest of our people.

* * *

Each new invention of widespread adoption, for travel, pleasure, or entertainment, creates new jobs for many thousands or millions. Our generation has witnessed the vast new industries and occupational interests created by the automobile, the airplane, the motion pictures, the radio, and television. There will be no lack of job-opportunities as long as there are human needs, interests, and desires to be satisfied. And the same human needs will create the incentive for further progress and invention.

These facts have been overlooked by the pessimistic philosophers and economists of former times. As long as human nature creates needs, human ingenuity will supply the solution; and with each satisfaction, new needs and desires are created.

* * *

The progressive substitution of airplanes and helicopters for automobiles is leading to the day when each individual will be able to propel himself through the air. When this comes to pass, the critical traffic congestion which challenges our best highway planning today will eventually seem like a minor problem.

One of the most important engineering tasks ahead is to establish weather and climate control so we can protect our crops from drouth and frost, and prevent floods, and to insure adequate food supplies for all the world at all times.

Today industry is changing in incredible ways and with incredible speed. We are daily creating new materials and new alloys. We are creating new chemical compounds at the rate of 50,000 a year. Petro-chemicals, which only a few years ago were a casual by-product of petroleum refining, have grown into an industry of $3 billion a year, producing more than one-fourth of all the chemical requirements of the nation.

* * *

We will soon be drawing power, food, drinking water and chemicals from the sea. As long as human ingenuity and engineering resourcefulness exist, we need never fear depletion of our present natural resources as a threat to survival. The resources of God's universe and the resources of the human mind are unlimited. All we need is the vision to see beyond the horizon.

Mankind is ever moving onward, and each gain in science or technology increases the certainty of further advance.

The future of engineering is to be gauged not by the past but by the problems still unsolved and the possibilities yet to be conceived and explored.

Science and engineering have liberated man from drudgery and serfdom, and have given us new resources of light, energy, and power—for creative work, for culture, and for re-creative leisure. A golden era of progress such as civilization has never before known has now been made possible. The further untold possibilities of the future are beyond our ken.

* * *

The conquest of each horizon opens the vista to greater and vaster horizons to be conquered. That is the unending challenge to the scientist and the engineer.

The role of the engineer in the onward march of progress and civilization is pictured in the following lines which I have captioned *"The Challenge"*:

Nature said: "You cannot."
Man replied: "I can."
From shore to shore, above the tides,
He built a gleaming span.

Nature said: "You dare not."
Man replied: "I dare."
He launched his winged ship aloft
And boldly sailed the air.

Nature said: "You shall not."
Man replied: "I will."
He caged the thunderbolts of Jove
And made them serve his skill.

Nature said: "You must not."
Man replied: "I must."
He split the atom. Now he holds
A godlike power in trust.

* * *

The late Dr. Gano Dunn, distinguis engineer and educator, eloquently pressed the need for a broader educa for the engineer—in these words:

"If the engineer's training neglects great human mirrors of history languages; if his heart and mind are sensible to the great social forces; if but feebly develops the subtle qualities character that make for personality, career is limited, no matter how m science he knows."

Engineering education, in building tomorrow, will have to be geared to t requirement of equipping engineers vision and leadership.

Finally, in a world of flux and co fusion, when men are swayed by selfis ness and fears, when the finer hum instincts are derided and disparaged, a when we see all around us the decay moral and ethical standards, there is crying need for men of *ideals.*

Engineering is inherently founded certain ideals—the ideals of vision, cha acter, honesty, and service to humani Engineers, by their education and th lifework, are naturally qualified to uph and exemplify such ideals in their life, their work, and in their relations wi their fellowmen.

An important element in life is Loyalty. r lives are shaped by our loyalties—to family, our friends, our school, our rch, our profession, our community, country—but one loyalty I would ce high in the list is *loyalty to our thful ideals*. Only by loyalty to our ls can we keep our lives straight. l only by keeping to our goal of in- ation can we scale the heights.

n conclusion, there is one thought I t to leave with you. It is summarized single word—consecration. By that I n all that goes into the feeling that works live after us—that we are ding not for ourselves but for pos- y.

he great master builders who pre- d us dreamed their dreams and ght their dreams—giving health, gth, and even life itself—as the price hievement. Profiting by our heritage from the pioneers, we are tackling even greater tasks. Whatever we may accomplish will in turn be eclipsed by those who follow after us.

In whatever we do—in whatever we build—beyond the stone and the steel, the calculations and the plans—the one priceless ingredient is the spirit of consecration. That includes the qualities of vision, devotion, inspiration and integrity.

The whole thought is beautifully expressed in the words of John Ruskin:

"Therefore when we build, let us think that we build forever. Let it not be for present delight, nor for present use alone. Let it be such work as our descendants will thank us for, and let us think, as we lay stone upon stone, that a time is to come when those stones will be held sacred because our hands have touched them, and that men will say, as they look upon the labor and wrought substance of them, 'See this our fathers did for us.'"

Benline Gets Strauss Award From Architects

The Sidney L. Strauss Memorial Committee of the New York State sociation of Architects has announced the selection of Arthur J. Benline, nical director of the New York State Building Code Commission as recipient of its 1957 award. Mr. Benline will be honored for his services e architectural profession, by the presentation of the medal and cita- at the annual dinner of the New York Society of Architects on Decem- 2th at the Commodore Hotel. His name was placed in nomination by New York Chapter of the American Institute of Architects.

Long superintendent of the Department of Housing & Buildings of York City, he received leave of absence in 1952 to direct the State ling Construction Code program, which is now in effect in over 230 cipalities of the state. During a prior leave of absence he commanded ce and Amphibious Forces assault units in combat in World War II. s now a Captain, Civil Engineer Corps, U. S. Naval Reserve and the r of numerous medals and decorations. Capt. Benline joined A.A.E. '22.

The Strauss award perpetuates the name of a past president of the York Society of Architects and is awarded annually to outstanding ects and public officials for achievements for the benefit of the archi- al profession during the preceding year.

Your Social Security

Social security has been a part of American life since 1935. Major amendments to the social security law in recent years have progressively extended and improved the Federal Old-Age and Survivors Insurance system and have added protection against loss of earnings because of disability and against the inability to work because of a disability starting in childhood. So that you may be fully informed as to the provisions in this law, ask your local Social Security office to send you the little booklet entitled "Your Social Security." If you would like a statement of your Federal Old-Age and Survivors Insurance Account, ask your local office or write the Social Security Administration, Bureau of Old-Age and Survivors Insurance, Baltimore 2, Maryland, to send you postal form OAR-7004, to be processed by you and mailed back to Baltimore.

Questions and Answers—Varied

A great many questions come up in a discussion on the subject of Social Security and because many of the Questions and Answers released by the U. S. Department of Health, Education and Welfare, S.S.A. district office in Chicago, Illinois, may be helpful to many of our readers, we are pleased to publish excerpts of the department's recent release herewith.

Q. I understand persons under 7 drawing benefits cannot ea over $1200 in a year if th want to receive all monthl benefits. Does this rule al apply to widows under 72 r ceiving social security benefi or can they earn any amou without affecting their benefit

A. The $1200 annual earnings te applies to all beneficiaries u der 72.

Q. I was born November 1892. I quit working before Nov ber 1957 or before I have p on $4200 in 1957, will my so security benefits be $108 when I apply? I was paid ma mum social security earni from 1951 through 1956.

A. If you file when you are 65 1957, your benefit amount w be $108.50 based on $4200 ea ings a year in 1955 and 19 We can drop out the years 19 through 1954 in figuring yo benefits.

Q. How many people are receivi social security benefits at t present time?

A. Approximately 9,200,000 p sons are drawing benefits $485,000,000 a month.

Q. When do members of the arm forces begin paying social s curity taxes on their earning

A. Members of the armed for began paying social secur taxes on January 1, 1957.

When my brother applied for his social security last year he had to have a copy of his Federal income tax form. I plan to apply next month. Must I wait until I file my tax return for 1956? My salary was over $4200 last year.

Only self-employed people are asked for a copy of their tax return when they apply for benefits. Since you plan to apply next month, it would help if you would take your W-2 with you, showing the amount of your salary last year. This is because your benefit probably will be figured on your earnings up to January 1, 1957, and the amount you earned during the last part of last year won't be recorded in your social security account as yet.

I am now 72 years old. Do I have to continue paying social security tax on my earnings?

If your earnings are covered by social security you must pay the social security tax regardless of your age.

I understand that social security tax is paid on earnings up to $4200. I have two jobs and in 1956 my total earnings amounted to $6500. Both of my employers deducted the tax on my earnings. Why must I pay on $6500?

Each employer must deduct the tax on the first $4200 of wages he pays you in a year. If you pay the tax on total wages of more than $4200, you may claim the excess tax on credit on your Federal income tax return for the year.

Q. I applied for my social security benefits in 1953. I did not receive any payments in 1954 and 1955 because I returned to work in January 1954 and earned $3600 each year. Now that I have stopped working again, is it possible to have the amount of my benefit increased?

A. Yes. Either because of the new provisions of the law or because of your increased earnings since you first applied for your benefits, the amount of your monthly benefit may be increased. Inquire at your social security office about applying to have your benefit refigured.

Q. I am a man 57 years old. I have paid the social security tax continuously from 1937 to 1955 when I took a job in the Federal government. I want to know if any retirement benefit I may earn from the Federal government will interfere with my getting social security benefits?

A. Because you have at least ten years credit under social security, you are fully and permanently insured. This means that both retirement and survivors benefits may be payable on your social security account. This is true even though you may receive a retirement benefit from the Federal government.

Q. I was 72 years old in July, 1956. I understood that a person who

is 72 would receive his social security benefits regardless of the amount of his earnings. Now I am told I must pay back six benefits for last year, why?

A. Benefits are payable to you for the month you are 72 years old and from then on no matter how you earn. But earnings for the entire taxable year in which you reach 72 must be counted to determine whether payments can be made to you for the months in the year before your 72nd birthday. Apparently you earned too much last year to receive benefits for the months before your 72nd birthday.

Q. I am entitled to benefits now at 65 years old. Could I just wait a few years before applying for benefits and then get my back payments in a lump-sum?

A. No. Back benefits may only be paid for 12 months. To protect your rights, you should visit the social security office now.

Q. I intend while I am under 72 years old to receive social security retirement benefits and also a pension of $95.00 a month from my employer. May I still earn $1200 a year while receiving both the pension and my retirement benefits?

A. Yes. Neither the amount of your social security benefit nor the amount of your company pension would be counted in the $1200 you may earn and still get all your benefits for the year.

Q. I will be 65 years old next September. For the past 15 months I have been working for wag of $40 a week. Just previous I worked for $16 a week f 12 years. How much will m social security benefits be, if retire this September? All m work has been under soc security.

A. If you were paid $2080 in 19 and will be paid $1040 by Ju 31, 1957 (and you receive least $50 of this $1040 on after April 1, 1957) your bene when you retire and apply September would be ab $73.00.

Q. My husband has filed a cla with the social security of for disability insurance ben which I understand may payable to him beginning July 1957. We have two dren under 18. Will any be fits be payable to me and children if he receives disabi insurance benefits?

A. No. The law does not prov benefits to the dependents o disabled worker who becom entitled to disability insura benefits.

Q. If I retire and apply for social security benefits t month, will my 1956 earni be included in figuring benefit amount?

A. Yes. You should bring e dence of your 1956 earni with you when you apply your payments. If you work for wages, your W-2 form be sufficient; if you were s employed, then you sho bring a copy of your Fede income tax returns for 1956.

I understand that my wife and son will get monthly benefits until the boy is 18, if I should die. I have a substantial life insurance policy to cover them in the case of my death. Could they still receive social security payments?

Yes. Their financial status after your death would not affect their right to receive survivors benefits. Only earnings from employment or self-employment can prevent their receiving payments.

I get retirement benefits of $98.50 a month and I have been working for $1200 a year. I have tried to stay below that amount so that I wouldn't have to give up my benefits, but I wonder if my additional earnings since retirement would give me a larger benefit now?

No. Earnings of $1200 a year would give you an average monthly figure of $100 and this would result in a benefit of only $55.00. Using these earnings would not increase your present benefit.

My husband has been receiving social security payments for the past two years. I will be 62 years old in July 1957. If I start drawing a wife's reduced benefit at age 62 and my husband dies, would my widow's payment also be reduced if I were still under age 65?

Your widow's benefit would not be reduced. You would receive three-fourths of your husband's monthly payment.

Since the social security law has provided for monthly disability insurance benefits beginning July 1957, hasn't the disability freeze provisions of the law become unimportant? If not, a person can apply for it at any time, can't they?

No. The disability is still of vital importance to disabled persons not yet 50 years of age. June 30, 1957, is the deadline for getting a disability freeze made effective with onset as far back as October 1941. After June, 1957, the disability freeze will apply to the previous year only.

My earnings at the factory where I worked were $3000 a year in the period 1951 through 1956. I understand a woman can draw benefits at age 62. I won't be 62 'til 1964. What will my benefit be, based on these earnings if I never work again?

Based on the information you furnished, your reduced benefit at age 62 would be approximately $60.00 per month.

My husband and I are both working under social security. He pays on $4200 yearly and I pay on $300 each year. We will both be 65 next year. If we both apply for benefits next year, how much will we each receive per month?

Your husband could qualify for the maximum payment of $108.50. Based on your own earnings, you would be eligible for a benefit of $88.50 each month.

Books for Engineers

Contracts, Specifications and Engineering Relations, Daniel W. Mead, 3rd ed. Re-written by the staff of Mead and Hunt; and Joseph Reid Akerman, Assoc. Prof., M.E., Univ. of Wisc. McGraw-Hill Co. $7.00

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Calculus Refresher for Technical Men, A.A. Klaf., C.E., Bd. of Water Supply, City of New York. Dover Publications $1.75.

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Molecular Flow of Gases, G. N. terson, Dir., Inst., Aerophysics, Wiley & Sons. $7.50.

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Radio Telemetry, Myron H. Nichol Lawrence L. Rauch, Professor Aeronautical Engrg., Univ. of 2nd ed. John Wiley & Sons. $12.

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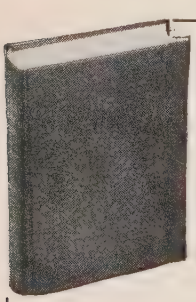

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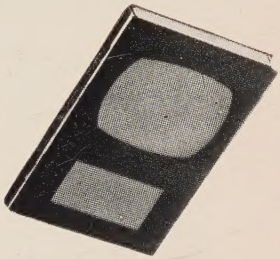

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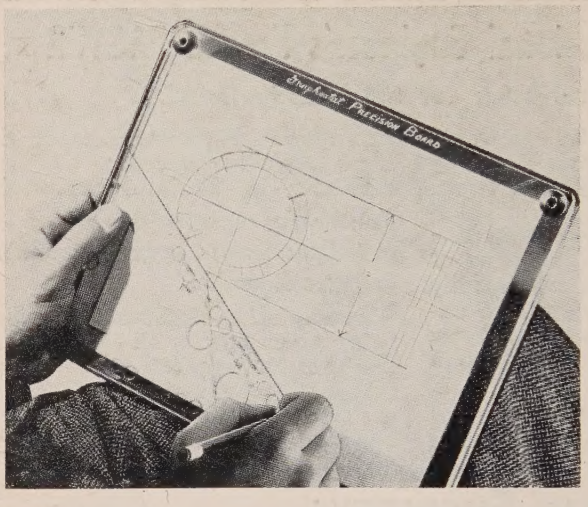

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